



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2013-0953; Directorate Identifier 2013-NE-32-AD]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Rolls-Royce plc Turbofan Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain Rolls-Royce plc (RR) RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, and 895-17 turbofan engines. The proposed AD was prompted by thin-walled low pressure (LP) turbine bearing support and exhaust case assemblies having been delivered into service. This proposed AD would require inspection of the affected LP turbine bearing support and exhaust case assembly and, if necessary, its replacement with a part eligible for installation. We are proposing this AD to prevent failure of the LP turbine bearing support and exhaust case assembly, which could lead to engine separation and damage to the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.

- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- Fax: 202-493-2251.

For service information identified in this proposed AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE248BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936; email: [http://www.rolls-royce.com/contact/civil\\_team.jsp](http://www.rolls-royce.com/contact/civil_team.jsp); Web site: <https://www.aeromanager.com>. You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2013-0953; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the mandatory continuing airworthiness information (MCAI), the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (phone: 800-647-5527) is the same as the Mail address provided in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Eugene Triozzi, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7148; fax: 781-238-7199; email: eugene.triozzi@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2013-0953; Directorate Identifier 2013-NE-32-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this proposed AD. Using the search function of the Web site, anyone can find and read the comments in any of our dockets, including, if provided, the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78).

## **Discussion**

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA AD 2013-0223, dated September 19, 2013 (referred to hereinafter as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

Rolls-Royce has identified that limitations in the drawing definition for the Trent 800 low pressure (LP) Turbine Bearing Support and Exhaust Case assembly (EIPC 72-52-51, 03-300, also known as the Tail Bearing Housing or TBH) may have resulted in thin wall section parts being delivered into service. Further analysis has concluded that under certain circumstances, the structural integrity of a thin walled part may be insufficient to withstand a fan blade failure event.

This condition, if not detected and corrected, could, in case of fan blade failure, lead to a loss of integrity of the TBH and leave the engine unsupported at the rear mount, possibly resulting in damage to, or reduced control of, the aeroplane.

This condition, if not addressed, may allow failure of the LP turbine bearing support and exhaust case assembly, which could lead to engine separation and damage to the airplane. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2013-0953.

## **Relevant Service Information**

RR has issued Alert Service Bulletin (ASB) No. RB.211-72-AG644, dated April 30, 2013. The ASB provides guidance for rework or inspection of the LP turbine bearing support and exhaust case assembly.

## **FAA’s Determination and Requirements of This Proposed AD**

This product has been approved by the aviation authority of the United Kingdom and is approved for operation in the United States. Pursuant to our bilateral agreement with the European Community, EASA has notified us of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design. This proposed AD would require inspection of the affected LP turbine bearing support and exhaust case assembly and, if necessary, its replacement with a part eligible for installation.

## **Costs of Compliance**

We estimate that this proposed AD would affect about 110 engines installed on airplanes of U.S. registry. We also estimate that it would take about 1 hour per product to comply with this proposed AD. The average labor rate is \$85 per hour. Required parts cost about \$9,250. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be \$92,600.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress

charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. Amend § 39.13 by adding the following new airworthiness directive (AD):

**Rolls-Royce plc:** Docket No. FAA-2013-0953; Directorate Identifier 2013-NE-32-AD.

#### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to all Rolls-Royce plc (RR) RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, and 895-17 turbofan engines, except those that have been reworked in accordance with RR Service Bulletin (SB) RB.211-72-G604, dated March 18, 2013.

#### **(d) Reason**

This AD was prompted by identification by RR of limitations in the drawing definition for the Trent 800 low pressure (LP) turbine bearing support and exhaust case assembly which resulted in thin wall section parts being delivered into service. We are

issuing this AD to prevent failure of the LP turbine bearing support and exhaust case assembly, which could lead to engine separation and damage to the airplane.

**(e) Actions and Compliance**

Comply with this AD within the compliance times specified, unless already done.

(1) For engines that have an LP turbine bearing support and exhaust case assembly identified by part number (P/N) and serial number (S/N) in Table 1 to paragraph (e) of this AD, installed, at the next engine shop visit after the effective date of this AD, but not later than June 30, 2017, replace the assembly with one that is eligible for installation.

(2) For engines with an LP turbine bearing support and exhaust case assembly not identified by P/N and S/N in Table 1 to paragraph (e) of this AD, installed, at the next piece part exposure of the LP turbine bearing support and exhaust case assembly after the effective date of AD:

(i) Inspect the hub to conical panel weld line thickness using paragraphs 3.B.(3)(a) through 3.B.(3)(d)(iii) of RR Alert Service Bulletin (ASB) RB.211-72-AG644, dated April 30, 2013; and

(ii) Inspect the hub to conical panel flange thickness using paragraphs 3.B.(4)(a) through 3.B.(4)(c)(v) of RR ASB RB.211-72-AG644, dated April 30, 2013.

(iii) If the LP turbine bearing support and exhaust case assembly does not pass the inspections required by paragraphs (e)(2)(i) and (e)(2)(ii) of this AD, replace the LP turbine bearing support and exhaust case assembly with one that is eligible for installation.



**Table 1 to Paragraph (e) –LP Turbine Bearing Support and Exhaust Case Assembly  
P/Ns and S/Ns**

<b>P/N</b>	<b>S/N</b>
FK31446	118-01
FK31446	209-01
FK31446	216-01
FK31446	232-01
FK32232	113-01
FK32085	268-01
FK32085	269-01
FK31446	022-01
FK31446	028-01

**(f) Definitions**

The following definitions apply for the purpose of this AD:

(1) An LP turbine bearing support and exhaust case assembly is eligible for installation if it has passed the inspections of paragraphs (e)(2)(i) and (e)(2)(ii) of this AD; or has been reworked in accordance with RR Service Bulletin (SB) RB.211-72-G604, dated March 18, 2013.

(2) “Piece part exposure” occurs whenever the LP turbine bearing support and exhaust case assembly is sufficiently exposed to do the inspections required by paragraphs (e)(2)(i) and (e)(2)(ii) of this AD.

(3) An “engine shop visit” is the induction of an engine into the shop for maintenance involving the separation of pairs of major mating engine flanges, except that the separation of engine flanges solely for the purposes of transportation without subsequent engine maintenance is not an engine shop visit.

**(g) Alternative Methods of Compliance (AMOCs)**

The Manager, Engine Certification Office, FAA, may approve AMOCs to this AD. Use the procedures found in 14 CFR 39.19 to make your request.

**(h) Related Information**

(1) For more information about this AD, contact Eugene Triozzi, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803; phone: 781-238-7148; fax: 781-238-7199; email: [eugene.triozzi@faa.gov](mailto:eugene.triozzi@faa.gov).

(2) Refer to MCAI European Aviation Safety Agency AD 2013-0223, dated September 19, 2013, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2013-0953.

(3) RR SB No. RB.211-72-G604, dated March 18, 2013, which is not incorporated by reference in this AD, can be obtained from Rolls-Royce plc using the contact information in paragraph (h)(4) of this AD.

(4) For service information identified in this AD, contact Rolls-Royce plc, Corporate Communications, P.O. Box 31, Derby, England, DE248BJ; phone: 011-44-1332-242424; fax: 011-44-1332-249936; email: [http://www.rolls-royce.com/contact/civil\\_team.jsp](http://www.rolls-royce.com/contact/civil_team.jsp); Web site: <https://www.aeromanager.com>.

(5) You may view this service information at the FAA, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on February 20, 2014.

Colleen M. D'Alessandro,  
Assistant Directorate Manager, Engine & Propeller Directorate,  
Aircraft Certification Service.

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